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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,116	02/20/2002	Quiqun Kevin Qi	RR1737/2345P	6766

7590 09/12/2003

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EXAMINER

PHAM, LY D

ART UNIT PAPER NUMBER

2818

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/079,116	Applicant(s) QI ET AL.
	Examiner Ly D Pham	Art Unit 2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 10-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
    1. ☐ Certified copies of the priority documents have been received.  
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
    \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
    a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Election/Restrictions*

1. Claims 10 – 16 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in paper filed August 04, 2003.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 3 and 5 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizushima (JP Patent JP411204854A).

Regarding **claims 1 – 3 and 5 – 8**, Mizushima discloses a magnetic memory comprising: a magnetic tunneling junction (fig. 10, MTJ 4); and a memory cell transistor (fig. 10, transistor2) whose gate is coupled to the first end of the magnetic tunneling junction (fig. 10) and drain is coupled to the second end of the MTJ (fig. 10), wherein a second end of the MTJ and the drain of the transistor are coupled to ground.

Although Mizushima happens to be disclosing the drain of the memory cell transistor being coupled with the second end of the magnetic tunneling junction, and coupled to ground, as opposed to the transistor's source as presently claimed. Nevertheless, it is considered common

Art Unit: 2818

and well known, especially in the memory arts, that the transistor's drain and source can be used interchangeably. Therefore, it is considered obvious to one of ordinary skill in the art, at the time the invention was made, to realize the memory cells apparatus as claimed as a design choice from the disclosure of Mizushima since the operation of the memory cell system as shown does not alter the inventive concept as claimed and more importantly, remains well within the scope (increasing the margin of the output difference between the memory cell's high and low states). In fig. 12, Mizushima also shows load resistor 3, bitline (BL) and word line (WL) for memory cell connection in an array, in which row lines and column lines are all considered prior arts.

Regarding **claims 4 and 9**, the examiner takes an Official Notice of the claimed limitation, in which the memory cell transistor operating in saturation region, to be common and well known in the art.

### *Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. When responding to the office action, Applicant(s) are advised to provide the examiner with the page and line numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

Art Unit: 2818

6. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02(b)).

7. Any inquiry concerning this communication on earlier communications from the examiner should be directed to Ly Pham, whose telephone number is 703-305-4862. The examiner can normally be reached on Monday – Friday from 8:30am to 5:00pm, alternate Friday off. The examiner's supervisor, David Nelms, can be reached at 703-308-4910. The fax number for the organization where this application or proceeding is assigned is 703-308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Ly Pham

September 2, 2003

  
**HOAI HO**  
**PRIMARY EXAMINER**